

SEQUENCE LISTING

(1) GENERAL INFORMATION

(i) APPLICANT: BILLING-MEDEL, PATRICIA
COHEN, MAURICE
COLPITTS, TRACEY L.
FRIEDMAN, PAULA N.
KLASS, MICHAEL R.
RUSSELL, JOHN C.
STROUPE, STEPHEN D.

(ii) TITLE OF THE INVENTION: REAGENTS AND METHODS USEFUL
FOR DETECTING DISEASES OF THE LUNG

(iii) NUMBER OF SEQUENCES: 20

(iv) CORRESPONDENCE ADDRESS:

(A) ADDRESSEE: Abbott Laboratories
(B) STREET: 100 Abbott Park Road
(C) CITY: Abbott Park
(D) STATE: IL
(E) COUNTRY: USA
(F) ZIP: 60064-3500

(v) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Diskette
(B) COMPUTER: IBM Compatible
(C) OPERATING SYSTEM: DOS
(D) SOFTWARE: FastSEQ for Windows Version 2.0

(vi) CURRENT APPLICATION DATA:

(A) APPLICATION NUMBER:
(B) FILING DATE:
(C) CLASSIFICATION:

(vii) PRIOR APPLICATION DATA:

(A) APPLICATION NUMBER: 60/048,810
(B) FILING DATE: 05-JUN-1997

(viii) ATTORNEY/AGENT INFORMATION:

(A) NAME: Becker, Cheryl L.
(B) REGISTRATION NUMBER: 35,441
(C) REFERENCE/DOCKET NUMBER: 6104.US.01

(ix) TELECOMMUNICATION INFORMATION:

(A) TELEPHONE: 847/935-1729
(B) TELEFAX: 847/938-2623
(C) TELEX:

(2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 239 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ix) FEATURE:

- (A) NAME/KEY: base_polymorphism
- (B) LOCATION: 200
- (D) OTHER INFORMATION: /note= "'N' represents an A or G or T or C polymorphism at this position"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

GGCCACCGGG	ACTTCAGTGT	CTCCTCCATC	CCAGGAGCGC	AGTGGCCACT	ATGGGGTCTG	60
GGCTGCCCC	TGTCCTCCTC	TTGACCCTCC	TTGGCAGCTC	ACATGGAACA	GGGCCGGGTA	120
TGACTTTGCA	ACTGAAGCTG	AAGGAGTCTT	TTCTGACAAA	TTCCTCCTAT	GAGTCCAGCT	180
TCCTGGAATT	GCTTGAAAAN	TCTGCCTCCT	CCTCCATCTC	CCTTCAGGGA	CCAGCGTCA	239

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 229 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

ACCGGGACTT	CAGTGTCTCC	TCCATCCCAG	GAGCGCAGTG	GCCACTATGG	GGTCTGGGCT	60
GCCCCTTGTC	CTCCTCTTGA	CCCTCCTTGG	CAGCTCACAT	GGAACAGGGC	CGGGTATGAC	120
TTTGCAACTG	AAGCTGAAGG	AGTCTTTTCT	GACAAATTCC	TCCTATGAGT	CCAGCTTCCT	180
GGAATTGCTT	GAAAAGTCTG	CCTCCTCCTC	CATCTCCCTT	CAGGGACCA		229

(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 180 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

CAGGAGCGCA	GTGGCCACTA	TGGGGTCTGG	GCTGCCCCCTT	GTCCTCCTCT	TGACCCTCCT	60
TGGCAGCTCA	CATGGAACAG	GGCCGGGTAT	GACTTTGCAA	CTGAAGCTGA	AGGAGTCTTT	120
TCTGACAAGT	TCCTCCTATG	AGTCCAGCTT	CCTGGAATTG	CTTGAAAAGC	TCTGCCTCCT	180

(2) INFORMATION FOR SEQ ID NO:4:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 165 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ix) FEATURE:

- (A) NAME/KEY: base_polymorphism
- (B) LOCATION: 68
- (D) OTHER INFORMATION: /note= "'N' represents an A or G or T or C polymorphism at this position"

- (ix) FEATURE:
 (A) NAME/KEY: base_polymorphism
 (B) LOCATION: 101
 (D) OTHER INFORMATION: /note= "'N' represents an A or G or T or C polymorphism at this position"
- (ix) FEATURE:
 (A) NAME/KEY: base_polymorphism
 (B) LOCATION: 124
 (D) OTHER INFORMATION: /note= "'N' represents an A or G or T or C polymorphism at this position"
- (ix) FEATURE:
 (A) NAME/KEY: base_polymorphism
 (B) LOCATION: 131
 (D) OTHER INFORMATION: /note= "'N' represents an A or G or T or C polymorphism at this position"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

TCAACACCAT	GTTGTCTGCA	ACACATGACA	GCCATTGAAG	CCTGTGTCCT	TCTTGGCCCG	60
GGCTTTTNGG	CGGGGAATGC	AGGAGGCAGG	CCCCGACCCT	NTCTTTCAGC	AGGCCCCAC	120
CCTNCTGAGT	NGCAATAAAT	AAAATTCGGT	ATGCTGAATT	CAATA		165

(2) INFORMATION FOR SEQ ID NO:5:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 389 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

CAGGAGCGCA	GTGGCCACTA	TGGGGTCTGG	GCTGCCCCCTT	GTCTCTCTCT	TGACCCTCCT	60
TGGCAGCTCA	CATGGAACAG	GGCCGGGTAT	GACTTTGCAA	CTGAAGCTGA	AGGAGTCTTT	120
TCTGACAAGT	TCCTCCTATG	AGTCCAGCTT	CCTGGAATTG	CTTGAAAAGC	TCTGCCTCCT	180
CCTCCATCTC	CCTTCAGGGA	CCAGCGTCAC	CCTCCACCAT	GCAAGATCTC	AACACCATGT	240
TGTCTGCAAC	ACATGACAGC	CATTGAAGCC	TGTGTCCTTC	TTGGCCCCGGG	CTTTTGGGCC	300
GGGGATGCAG	GAGGCAGGCC	CCGACCCTGT	CTTTCAGCAG	GGCCCCACCC	TCCTGAGTGG	360
CAATAAATAA	AATTCGGTAT	GCTGAATTC				389

(2) INFORMATION FOR SEQ ID NO:6:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 413 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

ACCGGGACTT	CAGTGTCTCC	TCCATCCCAG	GAGCGCAGTG	GCCACTATGG	GGTCTGGGCT	60
GCCCCCTGTC	CTCCTCTTGA	CCCTCCTTGG	CAGCTCACAT	GGAACAGGGC	CGGGTATGAC	120
TTTGCAACTG	AAGCTGAAGG	AGTCTTTTCT	GACAAATTCC	TCCTATGAGT	CCAGCTTCCT	180
GGAATTGCTT	GAAAAGCTCT	GCCTCCTCCT	CCATCTCCCT	TCAGGGACCA	GCGTCACCCT	240
CCACCATGCA	AGATCTCAAC	ACCATGTTGT	CTGCAACACA	TGACAGCCAT	TGAAGCCTGT	300
GTCCTTCTTG	GCCCGGGCTT	TTGGGCGGGG	GATGCAGGAG	GCAGGCCCCG	ACCCTGTCTT	360
TCAGCAGGCC	CCCACCCTCC	TGAGTGGCAA	TAAATAAAAT	TCGGTATGCT	TGA	413

(2) INFORMATION FOR SEQ ID NO:7:

- (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 424 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

GGCCACCGGG	ACTTCAGTGT	CTCCTCCATC	CCAGGAGCGC	AGTGGCCACT	ATGGGGTCTG	60
GGCTGCCCCCT	TGTCCTCCTC	TTGACCCTCC	TTGGCAGCTC	ACATGGAACA	GGGCCGGGTA	120
TGACTTTGCA	ACTGAAGCTG	AAGGAGTCTT	TTCTGACAAA	TTCTCCTAT	GAGTCCAGCT	180
TCCTGGAATT	GCTTGAAAAG	CTCTGCCTCC	TCCTCCATCT	CCCTTCAGGG	ACCAGCGTCA	240
CCCTCCACCA	TGCAAGATCT	CAACACCATG	TTGTCTGCAA	CACATGACAG	CCATTGAAGC	300
CTGTGTCCTT	CTTGCCCCGG	GCTTTTGGGC	CGGGGATGCA	GGAGGCAGGC	CCCGACCCTG	360
TCTTTTCAGCA	GGCCCCCACC	CTCCTGAGTG	GCAATAAATA	AAATTTCGTA	TGCTGAATTC	420
AATA						424

(2) INFORMATION FOR SEQ ID NO:8:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 68 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

AGCTCGGAAT	TCCGAGCTTG	GATCCTCTAG	AGCGGCCGCC	GACTAGTGAG	CTCGTCGACC	60
CGGGAATT						68

(2) INFORMATION FOR SEQ ID NO:9:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 68 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

AATTAATTCC	CGGGTCGACG	AGCTCACTAG	TCGGCGGCCG	CTCTAGAGGA	TCCAAGCTCG	60
GAATTCCG						68

(2) INFORMATION FOR SEQ ID NO:10:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 26 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

TTTTTTTTTTT	TTTTTTTTTTT	TTTTTC	26
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(2) INFORMATION FOR SEQ ID NO:11:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

TGTAAAACGA CGGCCAGT

18

(2) INFORMATION FOR SEQ ID NO:12:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

AAGGACACAG GCTTCAATGG

20

(2) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 32 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

GCCGCCATGG ACCTGCTGCT GGACTCTTAT AG

32

(2) INFORMATION FOR SEQ ID NO:14:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

GCGGCCGCCC ACAATGATGT CATAGACACG

30

(2) INFORMATION FOR SEQ ID NO:15:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 78 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: None

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

Met	Gly	Ser	Gly	Leu	Pro	Leu	Val	Leu	Leu	Leu	Thr	Leu	Leu	Gly	Ser
1				5				10						15	
Ser	His	Gly	Thr	Gly	Pro	Gly	Met	Thr	Leu	Gln	Leu	Lys	Leu	Lys	Glu
			20					25					30		
Ser	Phe	Leu	Thr	Asn	Ser	Ser	Tyr	Glu	Ser	Ser	Phe	Leu	Glu	Leu	Leu
			35				40					45			
Glu	Lys	Leu	Cys	Leu	Leu	Leu	His	Leu	Pro	Ser	Gly	Thr	Ser	Val	Thr
			50			55					60				
Leu	His	His	Ala	Arg	Ser	Gln	His	His	Val	Val	Cys	Asn	Thr		
65					70					75					

(2) INFORMATION FOR SEQ ID NO:16:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 29 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: None

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

Ser	Ser	His	Gly	Thr	Gly	Pro	Gly	Met	Thr	Leu	Gln	Leu	Lys	Leu	Lys
1				5					10					15	
Glu	Ser	Phe	Leu	Thr	Asn	Ser	Ser	Tyr	Glu	Ser	Ser	Phe			
			20					25							

(2) INFORMATION FOR SEQ ID NO:17:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: None

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

Glu	Lys	Leu	Cys	Leu	Leu	Leu	His	Leu	Pro	Ser	Gly	Thr	Ser	Val	Thr
1				5					10					15	
Leu	His	His	Ala	Arg	Ser	Gln	His	His	Val	Val	Cys	Asn	Thr		
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:18:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 33 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: None

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

Glu	Lys	Ser	Ala	Ser	Ser	Ser	Ile	Ser	Leu	Gln	Gly	Pro	Ala	Ser	Pro
1				5					10					15	
Ser	Thr	Met	Gln	Asp	Leu	Asn	Thr	Met	Leu	Ser	Ala	Thr	His	Asp	Ser
			20					25					30		
His															

(2) INFORMATION FOR SEQ ID NO:19:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 8 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

Asp Tyr Lys Asp Asp Asp Asp Lys
1 5

(2) INFORMATION FOR SEQ ID NO:20:

(i) SEQUENCE CHARACTERISTICS:

- 17) SEQUENCE CHARACTERISTICS
- (A) LENGTH: 21 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn Met His Thr Glu His
1 5 10 15
His His His His His
20

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	